POPULAR Computing WEEKLY

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Vol 5 No 10

Off the Hook – title details announced

TITLES have now been finalised for the Commodore 64 and Spectrum versions of *Off the Hook*, the follow up to last year's highly successful charity compilation tape *SoftAid*, which raised over £360,000 for the Band Aid Trust.

Off the Hook will comprise ten titles, donated by software companies. This time, the money will go to the Princes Trust for Drug Rehabilitation (see *Popular Computing Weekly*, January 9)

The Spectrum version will consist of *Psytron* (Beyond), *Fall Guy* (Elite), *Buggy Blast* (Firebird), *Ad Astra* (Gargoyle), *Splat* (Incentive), *Mugsy* (Melbourne House), *Kong Strikes Back* (US Gold), *Chequered Flag* (Psion), and *Blue Max* (US Gold)

For the Commodore, the tape will contain *Pitfall 2* (Activision), *Psytron* (Beyond), *Fall Guy* (Elite), *Demons of Topaz* (Firebird), *Sam Stoat Safebreaker* (Gremlin Graphics) *Kong Strikes Back* (US Gold), *Black Thunder* (Quicksilva), *Deathstar* (System 3), *Talladega* (US Gold), and *Classic Adventure* (Melbourne House)

Off the Hook's organiser, Rod Cousens, is determined that this time there should be as many machine versions as possible Although Amstrad and BBC versions of *SoftAid* were planned, he was unable to reach agreement over enough titles to release a tape 'I definitely want to do versions for Amstrad, BBC and C16 owners – I've got

continued on page 4 ►

In this issue

COLOSSUS CHESS 4

25 copies to win in our special competition

THIS WEEK'S NEWS

- Atari confirms new STs for show
- Spectrum 48/128 compatibility in doubt
- Commodore agrees credit terms with bankers

INSIDE) FOUR PAGE PULL-OUT INDEX FOR POPULAR 1985

RELEASED THIS WEEK
ZX SPECTRUM £7·95
COMMODORE 64 £7·95
AMSTRAD £8·95
PING PONG
Imagine
...the name of the game
The officially endorsed version of the No.1 arcade game by
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Imagine Software is available from selected branches of: WOOLWORTH LASKYS Rumbelows Greens Spectrum Shops and all good dealers

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EDITORIAL

It seems strange that this weekend's Atari Computer show should be the world's first, as its organiser Database Publications is claiming. After all, Atari is a veteran in the games machine and computer market.

Yet the games machine and XL range always had something of a cult appeal. Software was pricey, due to much of it being imported product.

The arrival of Jack Tramiel as its new head 18 months ago and his radical new philosophy has changed all that. Tramiel's charismatic quality is far more than a journalistic cliché and his aggressive determination to bring out the products he wanted has caught the world's attention.

British companies are now writing for the new machines as never before, even though the majority are still hedging their bets and waiting for a more substantial user base.

The ST range, whether you're a Tramiel fan or not, *is* radical. They are the machines which all industry pundits have said for the last two years would be produced for the consumer section of the market, and Tramiel has dared to produce them. Furthermore, he dared to do it in an aggressive fashion with a company he took with heavy debts and a staunchly 'gamesy' image.

The first 520STs released last autumn suffered the fate of many new machines: they were fundamentally unfinished and in very limited supply. Now that that hurdle has been more or less cleared, Atari is launching low-end versions (the 520 STFM and 520 STM) and a top end model (the 1040 STF) designed to add flexibility to the series.

A variety of STs at a variety of prices (from about £450 to £1,000) should make the range more attractive. But the paradox of hardware leading software and the software companies waiting for proven sales still exists.

The ST range is not yet a mass seller – but it has deservedly captured people's imagination.

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ABC

Computer Trade Association Magazine of the Year

Sinclair annoyed at 128 incompatibility

OWNERS of the new Spectrum 128 are discovering problems in trying to run their old 48K programs on the new machine The two machines it now transpires, are not quite as compatible as was first thought

Firebird, Activision, Digital Integration and Software Projects are the offending companies Firebird has admitted that *Elite* will not run in either 48K or 128K mode on the Spectrum 128

The problem appears to involve an area of Ram immediately below screen memory which has been changed on the 128.

The same catch causes trouble for Activision's *Hacker*, and Software Projects' *BC's Quest for Tires*

Tomahawk is the guilty program at Digital Integration where the company says its tape-loader routine is to blame

Melbourne House, however, has uncovered another snag All of its games will run on the 128, but not if you have a Kempston joystick plugged into the machine Kempston says it is aware of the problem and is investigating In the meantime, Kempston owners will either have to use the keyboard option or invest in a new joystick

Sinclair is understandably annoyed about the problems and says they are caused by the software houses "making dangerous assumptions" about the operating system. However it says the companies involved are working on fixes for the problems

Digital Integration says it will have an upgraded version of *Tomahawk* ready in about two months, while Firebird will have *Elite* patched up within a month

Anyone who has bought one of these products should return it to the retailer concerned for a refund, or send it direct to the software house involved

See also Letters, page 6

Off the hook

◄ continued from page 1

about five Amstrad titles already We hope to get enough to do an Atari version too '

Red Cousens hopes to get endorsement for the tape and its aims from Pete Townshend, the ex-Who guitarist, who has spoken out publicy about the dangers of heroin addiction "What I'm trying to do now is to get some kind of audio input on the tape from Pete Townshend," he said

Off the Hook, in each of its versions, will cost £6 99 Cousens is hoping it will be launched on March 24

However, the *Off the Hook* appeal will not end there Cousens plans to take an *Off the Hook* stand at September's *Personal Computer World* show, to sell old software titles for the charity

Commodore reaches agreement with bankers

COMMODORE International's banks have reached an agreement with the troubled micro manufacturer over its credit facilities in 1986

Commodore now has facilities of $135 million (£93 million) up to March 1987 The agreement comes after financial losses for Commodore in the last four successive quarters Now it has 13 months to re-establish profitability

Commodore International's chairman, Irving Gould, said, "We have been working closely with our banking partners, in a series of recent meetings, we reviewed our forward plans including our product strategies and comprehensive cost reduction programme already in progress"

Meanwhile, it is unclear whether the comprehensive cost cutting programme, which has already involved the closure of the Corby assembly plant, will also demand further cuts at Corby, with the UK operation being slimmed down still further

Atari confirms launch of new STs

ATARI has now confirmed it will launch a number of new products in its ST micro range at the first ever Atari Computer show, to be held at the Novotel in Hammersmith between March 7-9

The one megabyte Ram ST the 1040 STF, which was launched at CES in Las Vegas in January, is to be shown in this country for the first time The F at the end of the micro's name denotes the floppy disc drive that is built in to the cpu In the US the 1040 costs just under $1000, so in the UK a price around £800 looks likely Like the current 520ST it will be offered with either a colour or monochrome monitor

Two new 520 STs will also be introduced, the 520 STM and the 520 STFM These versions will fill the £400-£500 price slot, which was to be catered for by the 260ST, until Atari announced at CES that this would not now be continued. However, a 260 ST has been produced for the German market

The 520 STM is a 520, but with a TV modulator port, rather than the RGB output, so that it can be used with an ordinary television It will be sold as a stand alone unit, and not with the disc drive and monitor

The 520 STFM also has a TV modulator, but also a floppy disc drive built in as in the 1040 It is expected to cost around £500 Exact prices are to be announced at the show

"The 1040 STF is the machine we will be selling to specialist dealers, and the 520s will become the low end machines," explained Max Bambridge, Atari UK's general manager

"We always said we would do a low level machine, and at the time we anticipated a 256K memory, but prices have degraded so much that we can now do 512K at the same price"

Atari will also exhibit its 20M hard disc, which is already available, albeit in very limited quantities. It will furthermore, launch a new games machine, the 7800, which will be upwardly compatible with the current 2600

The new STs, according to Max Bambridge, will be available almost immediately, with the exception of the 520 STFM which will follow later

Ex-Beyond chiefs join Nexus

BILL Delaney, formerly MD of Beyond Software, and colleague Clive Bailey have taken over new company Nexus (see *Popular Computing Weekly*, January 30)

Nexus was originally set up by programmers Paul Voysey and Tayo Olwu to supply Beyond with products

The first product is titled *The Nexus Mission*, and will be available for the Spectrum 48K and 128, C64 and 128 and Amstrad CPCs "We plan to bring that out at Easter, and then seven titles before April

1987," said Bill Delaney

Nexus will cost £9 95 for tape versions and £11 95 on disc

Disc drive ready for Spectrum 128

OPUS has launched the first disc system for the Spectrum 128 It is a new version of its Discovery disc drive package

The Discovery is a 3½ inch, 250K capacity, double density drive and interface The device also offers parallel printer port, joystick interface and built-in power supply for both the drive and the Spectrum 128 itself.

Discovery for the Spectrum 128 will cost £149 95, the same price as the 48K Spectrum version

More details from Opus at 55 Ormside Way, Holmethorpe Industrial Estate, Redhill, Surrey (0737 65080)

Atari TOS now available in Rom

ATARI's TOS operating system for the 520ST has finally made its way into Rom, rather than being loaded from disc

Machine built now should have the operating system fully integrated in the Rom. Buyers of the 520ST since the beginning of the year should have found Rom upgrade kits with their machines Those who bought the machine in 1985 can now buy an upgrade kit for £25

However, ST owners who bought their machines from Silica Shop, in Sidcup, Kent, should be able to obtain their upgrades free of charge For details of Silica Shop's scheme, ring 01-309 1111

Others can get further information from Atari UK at Atari House, Railway Terrace Slough, Berks (0753) 33344)

New Activision text and graphic adventure

ACTIVISION's latest text and graphic graphic adventure is *Borrowed Time*, a Chandleresque tale of 1930's private detective Sam Harlow

You as Sam Harlow, must prevent a murder occurring The twist is that it is you who is likely to be murdered

The adventure features pull-down menus and interaction between characters It is also one of the first in Activision's range for 16-bit machines, although the first version will be on disc for the Commodore 64 and 128 at £14 99 later this month.

Versions will follow for the Atari ST, Amiga, Apple II and Macintosh

Football Manager kicks off again

FOOTBALL Manager, now four years old, is still alive and kicking

It has recently been converted to the C16 and Plus/4, and now Addictive has developed a version for the Atari 8-bit range, at £8.95, for release this week.

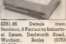
This means that *Football Manager* is now available on 11 machines, which is almost certainly a record.

Samleco's NLQ dot-matrix printer

SAMLECO has announced a NLQ (near letter quality) dot matrix printer, available with interface cartridges for Commodore and Sinclair micros

The DX-86 provides 80-column print-out, at speeds of 120 cps in draft mode, 65 cps in correspondence mode and 35 cps in NLQ mode It also has facilities for condensed and double width printing

Available now, it costs £281 85 Details from Samleco, 9 Fairacres Industrial Estate, Dedworth Road, Windsor, Berks (0753 864717)



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Letters

Open channels

Many thanks to G C Watson (letters, January 23) for solving the problem I had with List between Spectrum and Brother. Since writing in December I had found out (from the Microdrive manual) how to LLIST, but I prefer the flexibility of Mr/Ms Watson's version. Also it demonstrated that I can have more than one channel open at any one time, something I found rather confusing in the manual. I also found the brackets superfluous with control character numbers.

I have also modified line 279 in Tasword Basic to print in English characters (This only means using the hash sign for the pound, CHR$ 35)

278 FORMAT "b" , 6900 OPEN # 3, "b" LPRINT CHR$ 27, "R" , CHR$ 0

MS A B Wright
31 Ashbourne Way
Thatcham
Newbury
Berks

Pure whimsy

In volume 5 number 3 you suggested that no-nem potential market ground would be opened by the new Acorn Masters series. I disagree totally; what's more I believe little or no reasoning other than pure whimsy was employed in your biased degradation of what has the potential of being a market leader.

The Acorn Masters series is without doubt the machine that has been long predicted and long awaited by many computer enthusiasts. It has, of course, been obvious that Acorn were in the process of developing a minor revelation.

The prices of course is, I agree, a little high but then haven't they always been. Certainly customers will inevitably be lost or rather not gained by the over all deciding factor, but as with all quality products, the proof is in the tasting and as with the late BBC B series, each savour will increase the satisfaction of the purchase success.

You are as well aware as myself that good potential in this market must be supported if it is to survive the disturbing slump. While I realise you are trying to present a critical eye for machines but wouldn't it be in your own interests if you lent a little more support when a young genius is in our midst?

M L Hartley
Manager
The Water Hole Factory
751 SU
Mount Alice
West Falkland
BFPO 666

Tape offer

If you have not yet sent in your Firebird tape/Arcade Champion's Guide card with the coupons, please do so, so that it reaches us by Monday, March 31. This will enable us to process your entries more quickly.

Also, as from Wednesday, March 12, no more Micro Magic cards please. Believe it or not, there are some stragglers claiming prizes. If you still have a Micro Magic card, send it in now.

Ups and downs

I read the letter from T J Box (Vol 5 No 7) with great interest. I am presently between micros having just disposed of a C64. I have followed the ups and downs of the Enterprise since its inception three years ago.

Although it has been available now for a few months, I have not seen any books or magazines to cover this machine, nor is there any abundance of software. I would, therefore, like to ask the following questions in the hope that some of your readers might know the answers.

1) Where can I obtain an Enterprise?
2) Are there any books on the machine?
3) is there a monthly magazine or users group?

B Parrar
18 Cheviot Crescent
Dundee

Closed market

Regarding LW Tomlin's letter (Vol 5, No 6), the writer should look at the market the QL was initially aimed at. One can sell anything to home micro enthusiasts, especially when their parents do the buying.

'Now what are we going to call our next model?'

However, the QL was pitched at the small business user. Such a user will buy a machine for the software he/she sees it running, not from a look at the spec sheet. Furthermore, if it doesn't look as though it will work, doesn't feel as though it will work, and uses as storage medium one step up from knotted string, then I reckon the chances of it being a hit are severely limited.

Selling a few thousand that don't work effectively closes the market to you.

Paul Hardy
Bingley
W Yorks

Great success

I have bought many computers, but the QL is the first for which I have paid less than a million pounds. Or, to put it another way, the first bought with my own money. Since the original machine was replaced by Sinclair in mid-1984, I have used it for 20-30 hours a week with great success.

Like other of your readers, I thought that David Kelly's remarks (Ziggurat Vol 5, No 6) were made in ignorance, but his reply (Vol 5, No 8) made it clear that he was talking about one application – games playing. I don't knock games. Your magazine wouldn't exist without them, and many move on into computing. However, to regard the QL just as a games machine is absurd, even if it can run a stronger chess program than any other machine that appears in your weekly charts.

David Kelly says that 'sophisticated musical handling' is an essential requirement. I don't recall this being a feature of any machine by IBM or Amdahl and it certainly is not on the QL.

If you want to play games and nothing else, the QL may not be the best buy. For other tasks it must be a front runner. The bundled software alone is worth the price of the machine.

Ken Whyld
Caistor
Lincoln

Upgrade problems

On February 14 I bought a Spectrum 128. After reading the instructions, I realised it was about the same as the 48K model so I entered a few of my old games. Some worked, others did not.

I also bought a copy of *Elite*. After reading all the bad publicity the Lenslok system had had, I was astonished to find it easy to use. Unfortunately, the program crashed, despite using three different cassette players.

This morning (February 22) I purchased *Tomahawk* and rushed home, only to find that this game also refused to load.

I would like to know if Amstrad and Commodore users have experience similar problems on upgrading to 128K models, and I hope somebody will release a list of the games for the Spectrum 48K that will work on the 128.

Rick Palmer
Middlesborough
Cleveland

See the News Desk for more on this.

Ink problems

With reference to your letters page (January 23), black stamp pad ink works well, but the felt transfer pad will next cause problems by matting in line with the transfer roller base. Small slits in the end of the felt with a razor helps and increased spring pressure also helps.

It is worthwhile shopping around for ribbons. I buy from Meedmore in Liverpool at £3 78 each.

B Gibson
Stockport
Cheshire

EAST
SAI COMBAT
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Peek & Poke

Spectrum maze

Walter Fooley, of Waterloo, Liverpool, writes.

Q **I have been experimenting with generating mazes on the Spectrum, using the four compass points N,S,E,W, giving four exits from each location and moving four times to exit the maze. Would I be right in thinking there are 256 possible combinations 4 × 4 × 4 × 4? Would it be possible to write a Basic program to list these combinations?**

A If we assume that after four (correct) moves you exit the maze, then can we also assume that after four (incorrect) moves in any one direction that you hit a boundary of some sort If we can, fine, if not then you have an infinite maze!

Assuming all that, then you have a 7 × 7 matrix (excluding boundaries and the exit) thus gives you a total of 49 locations If you include the boundaries then you have a 9 × 9 matrix, or 81 locations The best way of listing the actual combinations generated is to hold the maze in an array, and using a *For ... Next* loop merely print it out after generation has taken place

Which computer?

K Jones, of London, writes

Q **My son wants a computer for his birthday and I'm not sure which one to get him I'm hoping that you can help me make up my mind**

He is 12 years old and would really only use the machine for games. I have narrowed the field down to the Amstrad CPC464, the Acorn Electron and the Commodore 64. Which one would you recommend and why?

A Of the three computers that you mention and for those reasons, I would go for the Commodore 64 or the Amstrad. Simply on the basis of the huge amount of quality games software available, the Commodore would be a good choice

The Amstrad is a good machine but does not have the depth of software that is available for the Commodore 64 Games written specifically for the CPC464 are still few and far between, although the number of conversions is growing What the Amstrad does have is the built-in cassette deck and monitor, so there would be no TV arguments in your household

The Electron disqualifies itself in my book, because Acorn is no longer manufacturing the machine, and there is not a vast software base in any case

Graphic tablet

P Robinson, of Harlow, Essex, writes

Q **Can you tell me where I could buy a graphics tablet for the Spectrum?**

A Certainly Try writing to Saga Systems Ltd, Greenhaigh, Woodham Road, Woking, Surrey GU21 4DL (You could always try scanning the ads in *Popular*.)

No support

G. Carter, of Leicester, writes

Q **I am using a BBC B at school as part of my O level computer studies course, and I want to buy a computer of my own for project work, etc. As the Electron is so cheap now, do you think I should get one?**

A Probably not Although it is very cheap at the moment, it is becoming increasingly hard to find, as Acorn has stopped manufacturing it, and therefore support for the machine will dwindle rather than grow

However, if you *only* want to use the computer for project work related to BBC Basic and your school studies to get you through the O level course, then it's an awful lot cheaper than buying a BBC, even though the BBC B too is getting hard to find in the shops The catch is that after the exams, you may well still want to use your micro The Electron's software range is not large, and it offers little in the way of cheap upgrade potential And you may well find it difficult to sell second-hand these days

The Rogue Program

THE FORCE

An icon-driven multi-screen strategic simulation of what it's like to take on the most difficult task of all

You may have saved the world from invading aliens many times over – but are you good enough to protect one small town from the criminal element within?

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MIND GAMES

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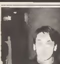

Special interest groups

This week I'll be looking at one particular facet of independent Bulletin Boards – special interest groups, or SIGS as the jargon will have it.

A SIG is a section of a bulletin board set up for a particular subject, and it needn't be computer-orientered You can get restaurant guides, pen pal services – and one BB even has a SIG devoted to alternate medicine Indeed, Prestel's own home computer database, Micronet, is shortly to diversify out of the computer arena with its Sunday supplement pages, which will include music and video reviews

SIGS generally enables users to leave messages, letters and questions to people with the same or similar interests This means that they can get help about a problem they have from others who may know more about that particular subject.

Many BBs have more than one SIG, for example TBBS London has 10 different SIGs, and some, like most of the ITeC boards, have no SIGs at all.

SIGs are set up by the Sysop (SYStem OPerator) of that particular board and are often 'requested' by users of the BB For example the Vulcan Board (NBBS Marlow) had a number of SIGs and recently added an Amstrad SIG to the list because so many people had left him messages requesting one

If your favourite board lacks a SIG that you feel it should have, then get in touch with the Sysop (either by leaving a message or going into 'chat mode') and ask for one to be set up

But, of course, most SIGs do deal with specific computer subjects, some of the most common SIGs are -CP/M, BBC, Spectrum, modems and hacking, adventure help and the TRS-80 How did the TRS-80 get in there you may ask? Well, the TRS-80 is the computer on which many boards run, including all of the TBBS boards

If you are unable to find the SIG section on a board then either there may be no SIG section or it may be restricted access or even just plain hard to find If it is restricted access then have a quiet word with the SYSOP to see if your security level can be raised to allow you to use the SIGs

BABBS I (3) (0384-276306)	—	Pascal, Modems, Mac, Hardware, CP/M, DOS, Sales and Wants, Guests and Adventure Clues
BABBS II (BASUG) (3) (0268-776956)	—	Apple, DOS, ProDOS, Pascal, CP/M, Modems, Hardware, Mac, Adventures, Sales and Wants, Jokes and Insults (?)
BB – Belton (D) (0493-781334)	—	BBC, Spectrum, MUD, Pen-Pals, Famous Friends, Sales, Adventures, Graffiti and Euro-Boards
Bluelips (3) (0843-32637)	—	E-Mail Cruisin' and Atari Bits
CBBS SW (D) (0392-53116)	—	CP/M, BBC, Atari, Sinclair TRS-80, Apple, Misc., and Basic
CCCBB (3) (0249-817007)	—	Atari, Commodore, Odds and Ends, Pen Palls, Exchange and Mart
FBBS Swansea (3) (0792-203393)	—	BBC, Modems, SYSOPs, Sales, Amateur Radio and Adventures
ITeC – Cardiff (V) (0222-464725)	—	Technology, Alternate Medicine, YTS, CP/M, Modems BBC, Spectrum, Amstrad, Commodore, Radio Communications and Electronics
Mailbox 80 (3) (061-428-8924)	—	Dragon/Co-Co, IBM PC, BBC, TRS-80, Atari, Apple, Modems, CP/M, Prestel, Adventure and Radio
Matrix (D) (061-736-8448)	—	Personal Jokes, MUD, Languages Modems, CP/M, Acorn Tandy, Spectrum, Apple and Commodore
RIP (3) (0742-667863)	—	TRS-80, Apple, Oric, Mac, BBC, IBM PC, Modem, Sales and Wants, Adventure Clues and Alien Life Forms (it takes all sorts!)
TBBS – London (3) (01-348-9400)	—	TRS-80, BBC, CP/M, Forth & Pascal, G, Modems, Sales and Wants, Where to Eat, Hacker's Club, Radio Communications (RTTY)
TBBS-Blandford (3) (0258-54494)	—	Sales & Wants, Commodore 64, TRS-80, BBC, Apple, Modems and Atari
Vulcan Board/ NBBS-Marlow (D) (0628-46691)	—	Amstrad, Apple, Vulcan, MUD, BBC, Spectrum, Radio control and Adventure help

The list below comprises some of the larger boards and their SIGs

NB the figures in brackets indicate the baud rate on that board 3 – 300/300 baud, V – 1200/75 baud, D – dual baud rates: both of the above

As with all charts, lists, tables, etc, this one can only be correct at the time of writing A BB may have added new SIGs the meantime

This week's BB top ten has been compiled by William J Holmes of Cliffsend, Nr Ramsgate, Kent

	Name	*Baud Rate*	*Number*
1	Bluelips	300/300	0843-32637
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10	TBBS – London	300/300	01-348-9400

It's new Bulletin Boards time now firstly CCCBB (listed in the SIG list), which stands for Calne Computer Club Bulletin Board You can dial it on 0249-817077, and it's on 300/300 baud It should be 24 hours a day by now but you may get a human answering the phone on the other end, if so this means the new equipment and software isn't working just yet All you do if this happens is ask the person on the other end to put on the BB

I'd better give a mention to the Vulcan Board, also known as NBBS-Marlow Both names are correct but I think it prefers to be called the 'Vulcan Board', it's both 300/300 and 1200/75 baud rates, 24 hours a day and the number is 0628-46691

Now BBS09 This is a 'ring back Board' (first dial the number, let it ring once then replace the receiver Redial and follow the normal procedure for dialling a BB) The number is 0705-736025, and I think it's 300/300 baud but I'm not sure – only way to find out is have a go at ringing it up Its hours are 1900-2200, except Sundays when it's 1000-2200

And the last one for this week is System 2000 Again it's a 300/300 baud board and it's open between 1900 and 0700 The phone number is 0642-456643

David Wallin

If you have any queries, tips or comments to make about any aspect of micro communications, David Wallin would love to hear from you

Write to him at *Popular Computing Weekly* 12-13 Little Newport Street, London WC2H 7PP.

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You can either mark your chosen moves on the diagram or send the solution on a separate piece of paper using standard chess notation.

White must move and checkmate Black in two moves

ENTRY RULES

Entries must reach us by Monday March 31, 1986. The first 25 correct solutions selected at random will receive a prize of a copy of *Colossus Chess 4*. The judges decision is final, and normal competition rules apply.

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Name: Pete Cooke
Tau Ceti programmer

Like lots of other programmers I began with the ZX81 which I bought mail order around six months after it was released – it went straight back because it didn't work. On the replacement ZX81, I mainly learnt Basic. I didn't get into machine code until the Spectrum came out.

I learnt machine code bit by bit, partly by just looking up op-codes in the back of the Spectrum manual and partly with the aid of Rodney Zak's book.

I think two things are important for those trying to learn machine code programming. First it helps if the machine you're working on is fairly simple and lets you fiddle around with the processor easily – the Spectrum is good from that point of view.

Secondly you should get a good assembler from the very start, it helps enormously.

For my own programming work I use the Gens assembler on the Spectrum and the Rom-based Maxam on the Amstrad, but mostly I write my own utilities as I need them.

The people I tend to admire are those that produce high level languages and assemblers for micros – that seems to me one of the most difficult things of all to do. In that respect I am very impressed by Hisoft, particularly its Pascal and C.

I am most proud of the shading effects I achieved in *Tau Ceti* – I developed a routine to fill a solid shape which took into account your angle towards it and the position of the sun.

My ideal program would be a sort of *Mercenary* with solid 3D graphics – a whole universe in the computer.

Name: Pete Cooke
Age: 29
Favourite Programs:
I think I play *Revs* more than anything else, though *Elite* is excellent as well. I also like *Flight Simulator 2* by Sublogic for its sheer size and breadth.
Favourite Machines:
I like them all for different reasons. I liked the ZX81 for being simple – I'd hate to try to start programming with an ST. I rate the Commodore for its sound obviously, and I like the BBC for its graphics. On the other hand the Spectrum is a nice simple machine to use and the Amstrad is nicely documented.
Softography:
Invincible Island, Urban Upstart, Inferno, Upper Gumtree and *Ski Star 2000* for Richard Shepherd Software, then *Juggernaut* and *Tau Ceti* for CRL. I'm currently working on the enhanced disc version of Amstrad *Tau Ceti*.
Hobbies:
My main other hobby is music. I play jazz piano with some local bands. Originally that used to be my work, I was in various local bands that never got anywhere. I also like Science Fiction.

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Up-grade kit

Product *QRAM 256K up-grade kit* **Micro** QL **Price** £99.95 **Supplier** Micro Peripherals, 3 Wade road, Basingstoke, Hants.

Product *512K up-grade kit* **Micro** QL **Price** £89.95 **Supplier** SPEM, Via Ponchielli 26/c, 10154 Turin, Italy.

Boosting the QL's 128K memory is now pretty big business with several peripheral companies offering a variety of competing solutions. The latest is a sort of DIY internal Ram upgrade which leaves the QL's left-side expansion port free and avoids the various Lego-like add-ons that until now were the only alternative to fairly expensive boards combining disc interfaces and extra memory.

At the moment, two companies – Micro Peripheral and SPEM of Turin – are selling Ram up-grade kits for QL owners with the bravery to open up their computers and start playing around with the chips.

For the less bold, Silicon Express offers a third choice: you send in your computer (and a cheque for £150) and the company returns a QL internally upgraded to 512K with a six month guarantee. New buyers can purchase a 512K QL from Silicon Express for £350 with a year's guarantee.

Repair costs

DIY enthusiasts take note. Opening the QL's case voids the Sinclair warranty so it would seem prudent to wait until the guarantee has expired before undertaking an internal up-grade. Even if the job is done perfectly, QL can be a bit temperamental and there is a real risk of unnecessary repair costs if the machine goes haywire on its own. With this in mind, the DIYers choice should – in a large part – depend upon an honest appraisal of their technical competence or the cost-effectiveness of paying for the job to be done.

Micro Peripheral's QRam is the obvious choice for the non-expert determined to go it alone. Opening the box reveals an L-shaped, 256K board fitted with 13 Ram chips and a small cabled extension.

The extension board contains 48 pins and a ribbon cable joined to the main L-shaped board with 40 connector pins at the base. There is a two page instruction sheet and diagram which is clearly written and divided into six simple steps.

The DIYer opens the QL case and removes the ZX8301 bus controller chip and the Motorola 68008 processor itself. The connector pins of the main QRam board are fitted into the sockets vacated by the ZX8301 and the small extension board replaces the 68008. The ZX8301 and the 68008 are then reinserted into the sockets provided on the QRam boards without any need for soldering or desoldering.

The job is just about as simple as it could be. Lifting out the two QL chips is a delicate business but easy enough. Nervous types should take special care with the 68008 – it's encased in a brittle ceramic and costly to replace. Once QRam is in and the chips replaced, the fits are snug and it's only a matter of refitting the case.

The up-graded QL's total memory is now 384K but, unfortunately, that's the maximum the user can have as QRam will not work with memory add-ons utilising the computer's expansion slot. Anybody wanting more than 384K has got to look elsewhere.

Ribbon cables

Things aren't quite as technically easy with SPEM's 512K up-grade although the price is attractive. The first thing on the three page instruction sheet (with circuit diagram) is the warning not to go ahead unless "you are an expert in hardware". After opening the QL's case, all similarity with QRam installation ends and potential buyers should take the warning very seriously.

Paying for the job to be done is an obvious alternative but, unless it's cheap enough, there is a point where one should consider just sending off the QL to Silicon Express for its up-grade and a six month warranty as well.

The SPEM kit itself consists of 16 Ram sockets, 16 HM50256 Rams and a new PAL circuit. After opening the QL's case and disconnecting the ribbon cables and loudspeaker wires, the reset button, heatsink and microdrives are taken out in a series of (careful) steps. The QL's old 128K Ram bank is unsoldered and replaced by the sockets provided. The new Ram chips are then inserted into their respective sockets. A small modification is made to the QL's ZX8301 and the new PAL circuit is installed in a series of fairly complicated solderings. Depending upon the particular QL, other small but delicate modifications may be necessary before the up-grade is complete or fully operative.

New circuit

The instructions aren't always as clear as they ought to be and there are a host of pitfalls waiting for the unwary and the non-expert – careless soldering, for example, can easily short-circuit the main board.

SPEM's kit offers a great deal of Ram for little money but it is probably only an option for the expert, or those non-experts enterprising enough to get the work done for them at little or no extra cost.

Internal upgrading, however, is probably the most rational approach to added QL Ram and both SPEM and Silicon Express deserve a great deal of credit for bringing their DIY packages on to the market at prices people can live with.

Brian Beckett

Teletext adaptor

Program *TTX2000 S Teletext Adaptor* **Micro** Spectrum **Price** £99.99 **Supplier** Volex Electronics, Lissadel Street, Salford M6 6AP.

Housed in a standard size under-the-Spectrum black box, the TTX2000 S could easily be mistaken for a modem. But its purpose is to access Oracle and Ceefax, ITV and BBC's way of making use of spare lines in TV signals, which hold text information pages as well as a considerable amount of advertising on the commercial channels.

Strong signal

This lets a Spectrum and ordinary set receive them – it is not suitable for bulletin boards or communications – as well as downloading telesoftware directly into the micro.

The use of an identical power supply connector to the Spectrum's for the tuner creates an initial bad impression – a simple slip could put 18V into your micro. You'll also need a strong signal to receive these spare lines and I found tuning incredibly difficult.

Once I had it set up I found that it created interference on normal vision, not that this mattered much because as far as I could tell there's no way of superimposing pages (eg, containing subtitles or newflashes) over broadcasts.

After all these problems I was surprised to find that the telesoftware downloaded without problem – I received a section of *The Living Body* program.

Normal vision

However, downloading is not fast and you're limited to Channel 4 telesoftware unless a soft converter makes the BBC transmissions available too.

All in all I wasn't impressed with the products performance and see little point in investing a penny short of £100 to indulge in the delights of broadcast teletext and software when a modem and subscription to a network gives you interaction too.

John Minsoe

Reviews

Word lines

Program *Dr Draw* **Micro** Amstrad (on CP/M) **Price** £49 95 **Supplier** Digital Research, Unit 12, Fanton Way, Southfields, Basildon SS15 6SL

DR Draw is from Digital Research, the author of CP/M, so the quality of this graphics package is assured from the start You'd be right in thinking, though, that the price, pedigree and presentation of the package does not recommend itself to the mere dabbler *Dr Draw* is rather for the business parson wishing to make a sober presentation.

This is not to say that it is in any way less flexible. The building block with which your pictures will be built is the 'element' thus, a circle is an element which may be added to a square, also an element This combination now becomes a third element

Elements may be shrunk or magnified, moved around the screen, copied, filled – anything you like

To help your design, grids of various sizes can be drawn on-screen (though rather slowly) and line-ends, box-corners and so on 'snapped', if required, to the nearest grid point Free-hand drawing is hardly possible, unless the user has the patience to use very short lines to build up a free-looking picture Several text fonts are supplied with the disc, and up to three at a time can be used in a picture

The manual is a delight to see, and is an object lesson to others, leading the user slowly and carefully from basic techniques to a deeper look at each function. there's also comprehensive set of instructions for the Amstred user Once the picture is finished, it may be printed on printer or plotter, or prepared for camera if presentation slides are prepared.

This last sentence should indicate that this is a package for the serious business user – as such it is excellent.

Tony Bridge

All things?

Program *Personal Assistant* **Micro** Amstrad CPC6128/PCW8256 **Price** £94 95 **Supplier** FMP Business Software, distributed by Screens, Main Avenue, Moor Park, Northwood, Middlesex

Imagine that this suite of six loosely related programs is aimed at busy owners of small companies who are forced to do their own secretarial duties The names of the individual modules give a hint as to their purpose *Bankmate*, *Billmate*, *Mailmate*, *Wordmate*, *Appointmate* and, yes, *Datamate*

The manual, produced on the *Wordmate* program, promises that the programs are compatible with the Amstrad CP/M machines – but, oh dear, they are not. And there are more bugs here than in the Insect house at London Zoo

A few examples will suffice the label printer works fine, except that names are not printed only salutations and addresses (you could define the first line of the address as the name of course – simple!)

The printer menu of the *Mailmate* module refuses to accept any input, thus freezing the program and forcing a power-down (and ignoring the fact that control codes are not required for the PCW printer)

The cursor keys of the PCW don't work as promised within the *Wordmate* program, while the delete keys are also non-operative, with no mention of what might replace them

Any references to specific Amstrad keys in the manual favour the PCW, with the 6128 owner being left to guess that many of the keys must be shifted (to be fair, Fydler tells me that there is an update sheet to the manual, but I haven't seen it yet)

On the subject of keys, the 6128 owner will find that the numeric pad is for some reason defined as an alpha pad – easily rectified from CP/M no doubt, but an insurmountable obstacle to the naive user Prompts within each module (for example, Y/N) are case dependent, and users believe it or not, have to set *Caps Lock* themselves. a few bytes of code would take care of that

Another facet of this particular failing is that, in the word processor, the user naturally doesn't want to stay in *Caps Lock* but must return to it in order to proceed with saving, loading and so on

Despite all this, is it worth persevering with the programs? The label printer, as we've seen, is totally useless and the appointment diary is slower and less attractive than the leather-bound paper variety. *Locoscript*, as every PCW owner knows, is almost unbeatable (certainly by *Wordmate*) and free, while the 6128 user has the choice of several infinitely superior programs, all of which are at least half the price of FMP's attempt. The invoice printer is okay if you don't have a VAT calculator around the office, but you're stuck with Fydler's layout which can't be re-designed.

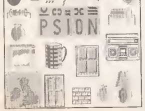
Probably the best part of the whole package is the database module, with its commendably fast sort and fine routine – it also has limited integration with the word processor and the label printer

The manual starts well but gets worse On balance not recommended

Tony Bridge

Quick draw

Program *Qdraw* **Micro** QL **Price** £12 95 **Supplier** Psion Psion House, Norcourt St, London W1H 1DT.



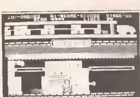
There seem to be an excess of graphics packages for the QL these days, which is dominated by Talent's *GraphiQl* so what have Psion got to overthrow Talent's number one spot?

I found that the Psion package was very easy to operate, drawing pictures in both modes The control of the Cursor is done by using the directional keys that surround the "S" key and the F4 key is used for special commands such as lines, expand, reduce, reflect and fill.

The main bulk of the documentation of this programme is spent on defining Shapes and how to manipulate them across the screen and changing their presentation in a variety of ways. This is somewhat useful to the freehand drawer, but if you plan your pictures well there is no need for such routines

The answer to the question 'why buy this when *GraphiQl* is around' is that the *Qdraw* is a simpler package to operate and a cheaper one to buy It is not as powerful as Talent's I feel though, the difference in price makes up for the loss in facilities

Matthew Palmer



Half baked

Program *Comic Bakery* **Micro** Commodore 64 **Price** £9 95 **Supplier** Imagine, Unit 10, The Park Way Industrial Estate, Heneage St, Birmingham B7 4LY

Quite what the connection is between racoons and a bakery is beyond me I'm afraid, but that however is the subject of this tepid release from Imagine

You are Joe, sole proprietor of this automated bakery whose job it is to bake as many loaves as possible before 8 00 p m in order to placate the hungry shoppers who are waiting in the front shop

As Joe dutifully patrols up and down his conveyor belt, racoons chase around switching off the machinery or eating the bread, and the only way the baker can stop them is by spraying them with of all things a stun gun (an essential tool for any aspiring baker) which sends those pesky animals to sleep for a few moments, enabling Joe to kick them out of the place And so it goes on ... and on and on

On the brighter side is a gutsy soundtrack by Martin Galway, and some nice sprites of the racoons and the baker

As this game is a Konami tie in, I suppose arcade freaks might remember it and enjoy playing their home version as this is quite a faithful reproduction, but with only two screens to play with, eventually it does get quite boring to say the least

Dare I say it – A stale offering

Andy Moss

Boys in blue

Program *The Force* **Micro** Commodore 64 **Price** £9 95 **Supplier** Mind Games, Liberty House, 222 Regent Street, London.

If this game is at all realistic, the police have the most boring job in the country.

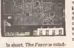
You play the part of the new superintendent responsible for allocating manpower in four police stations, in three shifts, seven days a week.

Your working week splits into two parts The really boring part of allocating foot patrols, Z-cars, dog handlers, mounted police, and the special reserve – not a brand of port but a horde of Dirty Harry clones who give the citizens the willies You do this for the three shifts, etc, etc

Then you sit back for the incredibly boring part where you watch the week unfold. The most exciting bit is the ticker tape which tells you when a Post Office has been robbed

The entire game is icon-driven, which is confusing and frustrating Numbers are denoted by colour, so a dark blue policeman's hat means one bobby, a purple hat means two, and so on

You can also call up lots of obscure crime statistics for each area, with the end result that the game properly involves half-a-dozen screen switches just to allocate one man. The sound is pitiful too



In short, *The Force* is mind-numbing No chance of disturbing the peace, but Argus could be charged for loitering without intent

Petas Worlack

Bang bang!

Program *West Bank* **Micro** Amstrad **Price** £7 95 **Supplies** Gremlin Graphics, 10 Carver St., Sheffield S1 4FS

This game is so simple, yet great fun to play It's like one of those police training exercises where cardboard cut-outs pop up and you have to distinguish between villain and bystander before firing

West Bank contains some very tasty graphics which consist of mean critters like the Dalton Brothers and Jack Vicious who are hell bent on robbing the bank. There are 15 doors and as each one opens, you are confronted either with a customer or a gunman with an itchy trigger Your job is to despatch the desperados without shooting the customers The real problem comes when gunman is disguised as bystander

There are quite a few extra features to enjoy, like a high noon shoot-out and a dwarf with seven hats housing either a pot of gold or a bomb!

A really entertaining game which doesn't bog you down with instructions just lets you pull that trigger and, at the price, it's a steal!

Andy Moss

Big top

Program *Ballyhoo* **Micro** Commodore 64 **Price** £33 60 **Supplier** Infocom (various independent stockists)

Even the merest hint of any impending Infocom release is normally enough for most adventure purists to start salivating at the prospect of doing battle with the devious minds of the American masters of adventure. Well, the rumours have turned to fact as before me is their very latest release – *Ballyhoo*

It s another in their mystery series following on from *Deadline* and *Suspect* and is a standard-level game It's set in the strange circus that time forgot – now, using a circus as a plot is nothing new (remember Brian Howarth's *Circus*) but don't be misled because with the Infocom treatment in terms of atmosphere, descriptive narrative and character interaction makes for a cracking story

The basis of the plot is this – You've just seen the Big Top show and going backstage hoping to see some of the action behind scenes you overhear a whispered conversation about the kidnapping of the owner s daughter and the lack of any leads from the hired detective You decide to help and are plunged into a mysterious circus world where corruption is centre stage

There are some great characters to meet, like Andrew Jenny half man half woman each side with its own personality, a number of stunts to perform, and strange dressing rooms to explore

Ballyhoo also has an even better parser than before (if that's possible) and a vocabulary of over 1700 words, the most advanced system yet.

All this comes in the usual superb Infocom packaging including authentic circus tickets and an official programme to the show

Of course it's not cheap but the best never is If you own a disc drive go out and buy it, you won't be disappointed.

Andy Moss

WORD PROCESSOR

by Glenn Counsell

This week sees the final part of the listing for a fully fledged wordprocessor for the Amstrad 464/664/6128 together with instructions for the use of its block manipulation functions

CTRL + A – Deletes the block of text specified by the cursor position at the time of the first and second presses

CTRL + I – The first press clears the screen below the cursor to allow text insertion at that point. Whilst in the insert mode this text is treated as a new text file allowing the use of all block functions.

CTRL + J – Left re-justifies a block of text defined by the cursor position at the time of the first and second presses. It places one space between each word and employs wordwrapping

CTRL + P – Prints a block of text defined by the cursor position at the time of the first and second presses

CTRL + C/CTRL + T – The cursor position at the time of the first and second presses defines a block of text. This block is then either copied (CTRL + C) or transferred (CTRL + T) to below the cursor position at the time of the third pressing

CTRL + E – Allows exit from the block manipulation functions at any given time before the final instruction is given.

Program notes

Wordwrapping and left justification are compulsory

The number of text lines available depends on the text width.

Amstrad's garbage collection may occasionally suspend screen output for a short time This is no problem just keep on typing

If using the wordprocessor with a tape based system carry out the following alterations:

Delete lines 80, 90, 100, 160, 170, 2440, 2460, 2850, 2860, 2870, 5440, 5460

Change the following lines to

2150 openout "!" + fn$

2580 openout "!" + q$

If your fingers are worn out by now then don't worry as copies of the program can be obtained from G Counsell, 216a Banbury Rd, Oxford for £7 (disc) or £5 (tape). Please state also whether you require the version of the program to work on disc or tape

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[illegible]
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POP 1

SPACE PROBE

by Paul Bussey

Owing to the recent and future discoveries of the Voyager space probes, this program shows some of the aspects of these robot explorers The program revolves around the formula, $F = (G \times m_1 \times m_2)/r^2$, where F is the gravitational force between point masses m_1 and m_2 distance r apart, with G as the gravitational constant.

In this case, one body is always stationary, thus being the planetary mass. The second body is your space probe which will be affected by the gravitational pull of the planet. The aim is to direct the flight path of the probe into a certain area of space represented by a vertical or horizontal line randomly placed on the edge of the screen.

At the start of the game, the initial velocity, initial angle and y coordinate of the probe have to be input. Each division on the y axis is 25 pixels. Zero degrees is due east negative angles giving initial flight downwards

Each new game gives a random mass of planet shown in proportional size on the screen If the planet is over a certain size then a series of rings are drawn around it. At the end of the plot, an option is given for either a new game or to keep the previous set up, and try again

Program Notes

50-170 – The main number crunching loop. Distance between point masses, component forces and acceleration of probe are worked out Checks if plot goes off screen

200-280 – Uses point (x,y) to check if the flight path is plotted towards the line

900-650 – Draws planet, the destination line, the y-axis with divisions, stars and the planetary rings, if needed.

800-870 – Uses OUT 254,a to change the border colour with speed, where a is the required colour, when mission is accomplished Also gives endgame options

1000-1500 – Initialisation Uses array as to temporarily store input values This is where the random position and size of the planet is defined. The whereabouts of the destination line is determined The length of the line can be changed by altering LINE at line number 1045 Increasing the variable dt speeds up the plot, but the plot is less refined. inputs are given a range check, the ranges being permitted and the prompts are stored in a data statement The angle is converted to radians

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[illegible]
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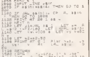

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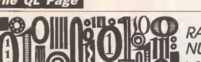

RANDOM NUMBERS

by Dr R K Lowry

The SuperBasic RND function is based upon one of the most effective pseudo-random number generation algorithms I have encountered and the design of calling sequence makes it a delight to use in a wide range of situations. It therefore came as a surprise to me to find that it could not be accessed from machine code without a direct call to the Rom routine which is version dependent. Many machine code programs, particularly games, require a source of pseudo random numbers so what is the solution?

There are a couple of techniques that I have seen used. The first uses the Rom. A pointer is set to the base of the Rom and the random number routine simply returns the contents of the Rom a byte or word at a time. This works on some micros but there is a problem on the QL. The object code for the 68000 contains a high proportion of zeros, due in the main to 16 or 32 bit constants, which gives any random number routine using this method a strong zero bias.

The second method is the 16-bit 'random number' at address 2802E hex. This is *not* a random number but is in fact a counter incremented by a 50 hz interrupt service routine. Thus the sequence of numbers produced increment uniformly and it is possible to get the same value several times if the random number is sampled frequently. However, this may not be important if a subfield (eg, the least significant three bits) of the random number is used and sampling is infrequent.

Another problem with this method can be speed. Consider a loop which returns a random number in the range 256 to 512. If this is entered when 2802E contains 513, the loop will hang around for about 10 minutes until a suitable value is obtained. This may of course be coded around by taking a subfield of the random number and manipulating it. However, if the true nature of this 'random number' is not appreciated, it can take a long time before you realise why your program occasionally 'hangs'.

What alternatives are there? If you require a series of positive 16-bit random numbers (ie, random numbers in the range 0 to 32767) then the formula: NEXT = (LAST*1641 + 13849) MOD 32768 works quite well. However, the whole random number must be used and not just a subfield or the sequence of random numbers becomes extremely predictable. Likewise loops which return a random number within a specified range should be avoided.

In my opinion algorithms based upon setting a particular bit by XORing and then spinning the bits work better in the situations most commonly found in machine code programming. The assembler listing given is based upon an algorithm where a long word is shifted a single bit to the right with the most significant bit set to the result of bit two XOR bit three. This has worked well in all but two situations.

First, the random number must not be seeded with zero or the only result possible is zero. Secondly, it is common practice to obtain a subfield of a random number by ANDing with a constant, ie, the subfield is the least significant *n* bits of the random number. If this is tested to control a program branch requiring a smaller subfield will no longer be random. For example, consider a branch which is executed when the random number ANDed with 63 returns zero. If a random number obtained in that branch is ANDed with 15 the result will always be zero. However, this can easily be overcome by reseeding – I normally use $2802E – or by using subfields other than the least significant *n* bits.

I hope this article illustrates some of the pitfalls awaiting QL machine code programmers who need random number generators. However, do not be too downhearted if you cannot work out which algorithm is best suited to your needs. My usual technique is to include several algorithms in a program, each as a separate subroutine, and select one of them as the 'work-horse'. In situations where the results are not what I require, I simply use one of the other algorithms.

```
RANDNO   DC.L        699878
*
* Subroutine Random
*
* 16-bit pseudo random number
* generator
*
* Output register
*
* D1.W - Random number
*
* D2/A0 Smashed
*
RANDOM   LEA         RANDNO,A0
*
* XOR bits 2 and 3
* Store result in extend bit
*
         MOVE.B      3(A0),D1
         ROXR.B      #1,D1
         MOVE.B      2(A0),D2
         EOR.B       D2,D1
         ROXR.B      #2,D1
*
* Place result in MSB and rotate
* long word 1 bit to the right
*
         ROXR.W      (A0)
         ROXR.W      2(A0)
*
* Return LSW as random number
*
         MOVE.W      2(A0),D1
         RTS
         END
```

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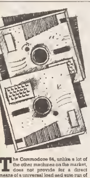

AUTO-RUN

by W Wako

The Commodore 64, unlike a lot of the other machines on the market, does not provide for a direct means of a universal load and auto run of programs

To overcome this oversight, the following utility was written and will load and execute programs saved to disc or tape be they in Basic or machine code

A little understanding of the Operating System is required to understand the operation of the Loader-Run Program When the machine is switched on and has set everything up, the machine then scans the keyboard buffer as a part of the Basic interrupt sequence Fortunately for us, those clever "Commodore People" inserted a jump vector as part of this routine All that is required is that when loading, this vector is altered to point to the start of the Loader Routine After the load is completed, the system is thus directed to the start of the Loader Program which in turn loads and executes the desired program, having restored the altered vector to its original value

The Loader Program is loaded into the Ram area from $02A7 to $02FF, so be sure that any programs to be loaded are not loaded to this area! This Ram area is right next to the Basic vectors So it is a simple matter of altering the desired vector and saving all as part of the Loader-Run Program

The utility provides some degree of error checking of the Data statements in the form of a checksum at the end of each line If all is well, when the utility is Run there will be a slight delay whilst the machine code routines are set up The utility will then issue a series of prompts one of which will be a request for a "File Name" This refers to the name of the program you wish to be loaded and run You will also be asked for the "Program Name", which is the name assigned to the Loader Program

For machine code programs you will be asked for a "Start Address" This refers to the logical start of the program, ie, the location to which to jump to for the execution of your program. Remember to terminate all your prompts with a carriage return

On loading your Loader Program be sure to load it as a machine code program, regardless of whether the file it will load is in Basic or machine code

```
5 REM *** LOAD AUTO-RUN UTILITY BY W.WAKO ***
10 POKE 55,00 :POKE 56,80 :CLR
20 PRINT"Ⓢ"
30 GOSUB 2000
40 GOSUB 400
50 GOSUB 550
60 GOSUB 1000
70 SYS 32768
80 END
395 REM
400 REM          SET DEVICE TYPE
405 REM
410 PRINT
420 PRINT "SAVING TO TAPE (T) OR "
430 INPUT "SAVING TO DISC (D) ";K1$
440 IF K1$<>"T" AND K1$<>"D" THEN 420
450 IF K1$="T" THEN 490
460 POKE 677,8    :REM BOOT FROM DISC
470 POKE 32768,8 :REM SET DISC SAVE
480 RETURN
490 POKE 677,1    :REM BOOT FROM TAPE
500 POKE 32768,1 :REM SET TAPE SAVE
510 RETURN
545 REM
550 REM      SET FILE PARAMETERS
555 REM
560 PRINT
570 INPUT "FILE NAME IS ";F0$
580 FL=LEN(F0$) :IF FL>16 THEN 560
590 POKE 749,FL :IF FL=0 THEN 560
600 FOR N1=1 TO FL
610 POKE 749+N1,ASC(MID$(F0$,N1,1))
620 NEXT N1
630 PRINT
640 INPUT "BASIC FILE (Y/N) ";K1$
650 IF K1$<>"Y" AND K1$<>"N" THEN 630
660 IF K1$="N" THEN 740
670 RE$="RUN"
680 POKE 736,0    :POKE 739,13
690 FOR N1=1 TO 3
700 POKE 733+N1,ASC(MID$(RE$,N1,1))
710 NEXT N1
720 POKE 739,13
730 RETURN
740 PRINT
750 PRINT "START ADDRESS OF FILE"
760 INPUT " IS (DECIMAL) ";AD$
770 IF LEN(AD$)>5 THEN 740
780 GOTO 800
790 AD$=AD$+" "
800 IF LEN(AD$)<5 THEN 790
810 AD$="SYS"+AD$
820 POKE 734,10    :POKE 738,13
830 FOR N1=1 TO 8
840 POKE 733+N1,ASC(MID$(AD$,N1,1))
850 NEXT N1
860 POKE 744,13
870 RETURN
995 REM
1000 REM      SET PROGRAM PARAMETERS
1005 REM
1010 PRINT
1020 INPUT"PROGRAM NAME IS ";P0$
1030 PL=LEN(P0$)
1040 IF PL>16 THEN 1010 :IF PL=0 THEN 1010
1050 POKE 32820,PL
1060 FOR N1=1 TO PL
1070 POKE 32827+N1,ASC(MID$(P0$,N1,1))
1080 NEXT N1
1090 RETURN
1995 REM
2000 REM      SET UP BOOT/SAVE PROGRAMS
2005 REM
2010 MY=679
2020 LN=3010
2030 GOSUB 2200 :REM BOOT PROGRAM
2040 MY=32768
2050 LN=3210
2100 GOSUB 2200 :REM SAVE PROGRAM
2110 RETURN
2210 REM
2220 REM         SET UP ROUTINE
2225 REM
2230 FOR N1=1 TO 7
2240 GOSUB 2500
2250 NEXT N1
2260 RETURN
2495 REM
2500 REM     MACHINE CODE POKE
2505 REM
2510 A2=0
2520 FOR N2=1 TO 8
2530 READ A1       :A2=A2+A1
2540 POKE MY,A1
2550 MY=MY+1
2560 NEXT N2
2570 READ A1       :A2=A2-A1
2580 IF A2=0 THEN RETURN
2590 PRINT
2600 PRINT "DATA ERROR IN LINE ";LN-10
2610 END
2995 REM
3000 REM            BOOT DATA
3005 REM
3010 DATA 1,173,167,2,174,167,2,160,846
3020 DATA 1,32,186,255,173,231,2,162,1000
3030 DATA 234,160,2,32,187,255,169,0,1041
3040 DATA 162,255,160,255,32,213,255,120,1652
3050 DATA 174,232,2,134,198,202,234,189,1380
3060 DATA 223,2,157,118,2,202,16,247,968
3070 DATA 88,32,83,228,108,2,3,0,549
3195 REM
3200 REM            SAVE DATA
3205 REM
3210 DATA 0,120,169,168,141,2,3,169,780
3220 DATA 2,141,3,3,169,1,174,0,493
3230 DATA 128,160,0,32,186,255,173,32,956
3240 DATA 113,162,0,160,113,32,189,255,1024
3250 DATA 169,2,133,251,169,167,133,251,1276
3260 DATA 169,251,162,13,160,3,32,216,1006
3270 DATA 069,00,32,83,228,84,200,0,1637
```

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3D GRAPHICS

by Wail Sabbagh

The program involves using sophisticated graphic manipulation to rotate a three dimensional pyramid on three axis and clearly demonstrates the high speed of the new Atari computer as well as its graphics

The program should be quite easy to understand, as it is divided into several subroutines

Initialise: set the arrays and variables of the program

Background: draws the axis in ST virtual screen

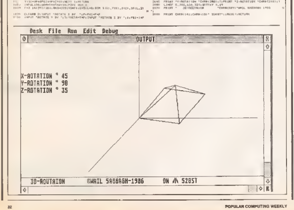
Draw: draws the actual pyramid

Rotate: updates x,y and z coordinates

GEM is turned off in this routine to speed it up

This demonstration will prove useful for children who find it difficult to think in 3D, as well as older users who are interested in the theory behind the manipulation of 3D – plus showing off the power of the Atari ST

```
10   REM (C) WAIL SABBAGH 1985
20   GOSUB INITILIZE:GOSUB BACKGROUND
30   DRAW:POKE GEM,0:OPENW 2:FOR I=1 TO L
40   X1=X(OR(I,1))-Z(OR(I,1))*ANG:X2=X(OR(I,2))-Z(OR(I,2))*ANG
50   Y1=Y(OR(I,1))-Z(OR(I,1))*ANG:Y2=Y(OR(I,2))-Z(OR(I,2))*ANG
60   LINEF 300+X1,180-Y1,300+X2,180-Y2
70   NEXT I:GOSUB ROTATE:GOTO DRAW
80   ROTATE:POKE GEM 1:FOR I=1 TO 8:X=X(I):Y=Y(I):Z=Z(I)
90   YP=Y*CPHI-Z*SPHI:ZP=Y*SPHI+Z*CPHI:XP=X*CTH-ZP*STH
100  Z(I)=X*STH+ZP*CTH:X(I)=XP*CPSI-YP*SPSI
110  Y(I)=XP*SPSI+YP*CPSI:NEXT I:RETURN
1000 INITILIZE:GEM=SYSTAB+24:POKE GEM 0
1010 P=3.14159/180:ANG=COS(45*P):E=5:L=8:DIM X(E),Y(E),Z(E),OR(L,2)
1020 CLEARW 2:INPUT "ROTATE X BY ";F:PHI=F*P
1030 INPUT "ROTATE Y BY ";T:THETA=T*P:INPUT "ROTATE Z BY ";S:PSI=S*P
1050 FOR I=1 TO E :READ X(I),Y(I),Z(I):NEXT I:FOR I=1 TO L
1060 READ OR(I,1),OR(I,2):NEXT I
1070 DATA 0,0,0,0,0,100,100,0,0,100,0,100,50,50,50
1080 DATA 1,2,1,3,3,4,2,4,5,1,5,2,5,3,5,4
1090 CTH=COS(-THETA):STH=SIN(-THETA):CPHI=COS(PHI):SPHI=SIN(PHI)
1100 CPSI=COS(PSI):SPSI=SIN(PSI):RETURN
2000 BACKGROUND:CLEARW 2:FULLW 2:LINEF 600,5,600 180:LINEF 300,180 A
60 180
2030 LINEF 300,180,300-180*ANG,180+180*ANG
2036 GOTOXY 0,4:PRINT "X-ROTATION "CHR$(248);F
2040 PRINT "Y-ROTATION "CHR$(248);T:PRINT "Z-ROTATION "CHR$(248);S
2060 LINEF 0,300,630 320:GOTOXY 0,19
2070 PRINT "    3D-ROUTATION          "CHR$(189)"WAIL SABBAGH 1985        O
N ")
2080 PRINT CHR$(14);CHR$(15)" 520ST"):RESET:RETURN
```



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Recent hits

Despite the traditional rush to release software in time for Christmas, it seems that some of the very best games programs have been held back until now The Commodore 64 has had some excellent pure arcade releases lately; *Uridium* from Hewson being of particular note Ever since I saw the smooth multi-directional scrolling of *Gribbly's Day Out* I've been longing for them to use the routines for a space blast and here it is Fast, furious and great fun The only thing to match it is, of course, the superb *Mercenary* from Novogen and there are lots of interesting rumours about a forthcoming *Mercenary 2* Let's hope it isn't as long appearing as the first one

US Gold has also slipped out two of their best games to date *Kung Fu Master* is an extremely addictive copy of the arcade game of the same name and is slightly different from other karate games in that it gives you several very fiendish opponents at once *Hard Ball* is one of the best looking sports simulations I've ever seen, although a bit tricky to play Lets hope that they make a good job of the conversions Incidentally, BBC owners should note that US Gold is now converting some of its recent hits for that machine

Licensing deals are of course still popular, but they seem to be settling down and actually adding something to the game other than cheesy attempts at making the sprites look like TV characters, etc *Back To The Future* is possibly the best release to date from Electric Dreams and is an arcade adventure based on the plot of the film – different from the usual fare and with nice digitised graphics

Battle of the Planets from Mikro-Gen, on the other hand, is a little disappointing – there is some of the smoothest and fastest 3D vector graphics yet seen and it's a good shoot up, but it lacks in plot and some of the enemy ships look like Rowenta steam irons

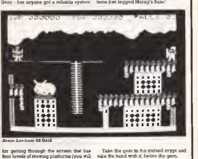
Ever since the release of *Knight Lore* there have been loads of games using a similar 3D design and the whole thing has started to get a little boring To date, only *Sweevo's World* and *Rasputin* have made any attempt at improving on the atmosphere and plot of the games All that has changed now, with *Movie* from Imagine, a game set in the world of a 1940's Philip Marlowe detective story that is a superb complement to the 3D design

An original story line and some nice touches such as speech bubbles have breathed new life into the Spectrum – don't miss it.

Anyway, enough of the games news for this week and on with the tips Here's a couple of little bugs that I've picked up on the Amstrad version of *Bruce Lee*. First off, if you move to the right on to the third screen and go to the bottom right level, beneath the big hippo, by pressing the down key you will jump several screens and reappear at a much later stage in the game missing out on some rather sticky problems

Secondly if on the opening screen you select the option of one player against an opponent rather than against the computer, you will find that you start with nine lives rather than the usual three The next trick is to get to the screen that has an object like a huge double Chinese lantern Collecting this will normally give you an extra life, but if you can do it without losing one of your nine on the way you will be rewarded with a magnificent 99 lives

I have managed to complete the game, although it needed nearly all of these lives – has anyone got a reliable system for getting through the screen that has four levels of moving platforms (you will know the one I mean, if you've got that far)?



Bruce Lee from US Gold

Now we are going to return to the demon cursed depths of *Dragontorc*, to find out what has happened to poor old Maroc (this is just like *Eastenders*)

We left him underground in the cursed crypt clutching a cursed key and an ankh symbol Find the room with another ankh symbol on the wall and some skeletons will appear. Match the two symbols before they get you and they will be stopped.

The symbol will change and fall off the wall – take it. You will find a different room with the changed symbol on the wall Match it with the ankh and skeletons appear, match it with the new symbol and the magic is switched off and the one on the wall changes into a crown symbol and falls to the ground. Take this and find another crown symbol to match it to reveal the exit.

The cursed key is useful here to unlock many of the doors Whilst you are looking around beware of invisible snakes that become visible if you touch them

Use *Heal* if they bite or use *Mantle* to protect against all magic and poisons

Find the small blue key and use it to unlock two blue chests Take the spells and a door key Open the door to the third wraith room with this *Bane* and wraiths. Use the same key at the other end Keep *Bane* on and search the tombs for spells. Search with the crown symbol to get the crown but avoid the hand that will fall down.

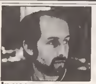
Take the crown to the anvil to destroy it

Now place the crystal of antithought on the anvil so that it can absorb the magic You get the message, 'Now gem can tame five legged Morag's Bane'

Take the gem to the cursed crypt and take the hand with it. Leave the gem.

We're on the last stage now – proceed to Wyemwood which is where the evil Morag can be found at last, guarded by an evil creature that she has summoned to her side and also lots of handy elvish cannon fodder for you to use Unfortunately that is where we are going to leave you to sweat it out for yet another week.

Tony Bridge's Adventure Corner



In vogue

Why should record buyers have all the fun when it comes to collections? We adventurers too should be able to buy tapes of several well-selected examples – and indeed, this sort of compilation tape seems to be enjoying a vogue at the moment. I hope that it continues, because, as you'll see, there are some good collections around at the moment.

Last week, we saw a pack of reasonable adventures at a reasonable price this week, a couple more

Pimania, after a short rest, has returned, I'm glad to say, in the form of *10 Packs* I've seen volume three, and I imagine that it is in much the same vein as the others, that is, several arcade games together with a couple of text adventures.

In this case, the arcade games are pretty dire: in fact, ZX81ers would laugh with barely-disguised pity, although there is at least one *(Crazy Castles)* that might persuade the player to postpone more mundane amusement such as kicking the dog.

Buried amongst the dross, however, are the two adventures *The Royal Adventure of a Common Frog* by Terry Braverman is wacky indeed It's "rescue the princess" time again, but this time, instead of starting out on your white charger with trusty sword in hand, you begin the adventure sitting on your little lily-pad.

Yes, you're the frog, of course, which means that you are amphibious and can happily swim down from the pad to start your quest.

The layout is standard *Quill*'d stuff, white text on blue paper, although the adventure is *Illustra*'d, so many of the locations have associated pictures; actually, not far from the start, you'll come across a maze, and the fact that the program draws pictures only in previously unvisited locations should help you here

Quite a large number of locations to be visited, however, and enough to keep the player going for some while The puzzles are quite entertaining, particularly as you will eventually be transformed from a frog to – gasp – a full-grown human (well, a prince anyway).

The second adventure on the tape is an old favourite of mine, *Here be Tygers*, from Bob Franklin. One of the few *Quill*'d adventures with absolutely no sign of a spelling blunder! It's a beautifully-written adventure, at the start of which you had your toe stuck up the tap in your suite in the Penge Hilton. Just another Saturday night really!

There are several introductory screens full of instructions, during which

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you learn that "Certain Parties" (again) need a volunteer ahh, you've just volunteered For what? Well, it's a case for saving the universe again, starting on planet Gekko 4 the Certain Parties are the eponymous Tygers of Gekko 4

After translating the instructions, which are written in ancient Sumerian, you'll know that all you have to do to solve this adventure is to, among other things, rescue the 19th iridescent owl from the flaming pit, spoken the spell of Oblivion from the lexicon of the Undead, bored the weregerbil to death read the small print, rescued the droid's peanut butter – well, you get the picture, and after that, things start to get difficult!

The essential things in tackling *Tygers* is a warped sense of humour, a pair of jeans and a tin ear this last requisite comes in handy when in contact with the singing obstetrician, Dr Hank Wangford. A sweatshirt emblazoned with his picture is present in the first location, don't ask me what purpose it fulfills in the game, just get it and wear it! Now you know about as much as I do – just play and enjoy, but a warning this game will pollute your computer and damage your tender little ego!

Artic has also recently issued a compilation tape, but in this case, the tape contains two arcade games on the first side, with on the second side, two adventurers, *Curse of the Seven Faces* and *Robin Hood*. I've raved over *Seven Faces* before, so I won't go into detail here, but suffice to say that it is an extraordinarily good text game, with lots of tough puzzles and plenty of humour One day, this adventure will get the fame it deserves

Robin Hood is *Quill*'d and *Illustra*'d, with a spindly character set which is rather difficult to read sometimes Quick death greets you at many turnings, but play is very quick and you'll soon work out where not to go The occasional odd spellings don't, however, detract from the fact that there are lots of objects, treasures and locations (nicely illustrated) waiting to be explored and taken and it is fairly easy to find the purpose of keys and other artefacts

Although there is a bit too much of the "You see nothing special" kind of response the adventure is satisfying to play for beginners, who will find plenty to do before becoming completely stuck and for the expert, *Robin Hood* is a pleasant way to spend a few hours

Finally, at last I don't have to suffer alone in reading Sensible News Releases from that seat of lunacy, I mean learning, St Bride's School *The St Bride's Swashbuckler* will be packed to bursting with, they say, news of forthcoming games, articles about adventures and arcade games, comics and so on What's more, teacher is offering the first issue free to anyone who sends two stamps to cover postage, to: Swashbuckler Offer, St Bride's School, Burtonport, County Donegal, Ireland.

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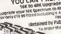

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MAGAZINES

DRAGON USER

To make the most of your Dragon you need **Dragon User** — the independent magazine for Dragon owners. To make sure that you receive a copy of Dragon User regularly subscribe direct to us. A year's subscription costs £14 for 12 issues (overseas rates available on application). Send a cheque or postal order made payable to Dragon User and accompanied by your name and address to Dragon User Subscription Department Oakfield House Perrymount Road Haywards Heath Sussex RH16 3DH.

COMPUTER SWAP

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Charts

Amstrad

1	(4)	Yie Ar Kung Fu	(Imagine)	£7.95
2	(1)	Elite	(Firebird)	£14.95
3	(–)	Sky Fox	(Ariolasoft)	£9.95
4	(–)	Finders Keepers	(Mastertronic)	£1.99
5	(2)	Hypersports	(Imagine)	£9.95
6	(–)	Nonterraqueous	(Mastertronic)	£1.99
7	(7)	Who Dares Wins II	(Alligata)	£9.95
8	(6)	Caves of Doom	(Mastertronic)	£1.99
9	(10)	Spellbound	(Mastertronic)	£2.99
10	(8)	One Man and his Droid	(Mastertronic)	£1.99

Atari

1	(8)	One Man And His Droid	(Mastertronic)	£1.99
2	(2)	Action Biker	(Mastertronic)	£1.99
3	(3)	Chimera	(Firebird)	£3.95
4	(2)	Gauntlet	(US Gold)	£9.95
5	(1)	Fighter Pilot	(Digital Integration)	£9.95
6	(4)	Smash Hits 4	(English)	£9.95
7	(10)	Spy vs Spy	(Databyte)	£9.95
8	(–)	King Of The Ring	(Greenlin In Graphics)	£9.95
9	(8)	Spy Vs Spy	(Beyond)	£9.95
10	(–)	Electra Glide	(Activision)	£8.95

BBC

1	(1)	Yie Ar Kung Fu	(Imagine)	£9.95
2	(5)	Strike Force Harrier	(Mirrorsoft)	£9.95
3	(2)	Way of the Exploding Fist	(Melbourne House)	£9.95
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6	(6)	Citadel	(Superior)	£9.95
7	(–)	Fleet Street Editor	(Mirrorsoft)	£9.95
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9	(–)	Combat Lynx	(Durell)	£8.95
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Commodore 64

1	(2)	Yie Ar Kung Fu	(Imagine)	£8.95
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3	(3)	Eidolon	(Activision)	£14.95
4	(3)	Rock 'N' Wrestle	(Melbourne House)	£9.95
5	(–)	Lord of the Rings	(Melbourne House)	£15.95
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7	(6)	Mercenary	(Novagen)	£9.95
8	(7)	Rose	(Mastertronic)	£1.99
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1	(1)	Movie	(Imagine)	£7.95
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3	(3)	Winter Games	(Epyx/US Gold)	£7.95
4	(–)	Rambo	(Ocean)	£7.95
5	(6)	Yie Ar Kung Fu	(Imagine)	£7.95
6	(4)	Barry McGuigan World Champions	(Activision)	£7.99
7	(8)	Hypersports	(Imagine)	£9.95
8	(–)	Devils Crown	(Mastertronic)	£1.99
9	(–)	Gunfright	(Ultimate)	£9.95
10	(2)	Spellbound	(Mastertronic)	£2.99

All figures compiled by Gallup/Microscope

Top Twenty

1	(1)	Yie Ar Kung Fu *(Various)*	Imagine
2	(2)	Formula One Simulator *(Various)*	Mastertronic
3	(–)	One Man and his Droid *Mastertronic)*	Mastertronic
4	(3)	Kung Fu Master (C64)	US Gold
5	(5)	Movie *(Spectrum)*	Imagine
6	(4)	Hypersports *(Various)*	Imagine
7	(11)	Finders Keepers *(Various)*	Mastertronic
8	(12)	BMX Racers *(Spectrum/C16/C64)*	Mastertronic
9	(10)	Action Biker *(Various)*	Mastertronic
10	(10)	Winter Games *(Spectrum/C64/Amstrad)*	Epyx/US Gold
11	(13)	Commando *(Spectrum/C64)*	Elite
12	(–)	Rambo *(Spectrum/C64)*	Ocean
13	(7)	Lord of the Rings *(Spectrum/C64)*	Melbourne House
14	(6)	Elite *(Various)*	Acornsoft/Firebird
15	(8)	Eidolon *(C64/Atari)*	Activision
16	(20)	Big Mac *(C64/C16)*	Mastertronic
17	(–)	Barry McGuigan World Champions *(Various)*	Activision
18	(–)	Rockman *(Various)*	Mastertronic
19	(9)	Computer Hits 10 *(Various)*	Beau Jolly
20	(15)	Spellbound *(Spectrum/Amstrad)*	Mastertronic

Figures compiled by Gallup/Microscope

Readers' Chart No 64

1	(2)	Elite *(Spectrum/C64/BBC/Amstrad)*	Firebird/Acornsoft
2	(1)	Commando *(Spectrum/C64/C16)*	Elite
3	(4)	Lord of the Rings *(Spectrum/C64/Amstrad)*	Melbourne House
4	(–)	Yie Ar Kung Fu *(Spectrum/C64/Amstrad/BBC/MSX)*	Imagine
5	(3)	Winter Games *(Spectrum/C64)*	Epyx/US Gold
6	(–)	Movie *(Spectrum)*	Imagine
7	(7)	Way of the Exploding Fist *(Various)*	Melbourne House
8	(–)	Tomahawk *(Spectrum)*	Digital Integration
9	(–)	Kung Fu Master *(C64)*	US Gold
10	(8)	Rambo *(Spectrum/C64)*	Ocean

Winning Phrase No 64: "Amstrad Elite: no go", from Mark Lumley of Morden in Surrey, who wins.

Now voting on week 66 – £25 to win

Each week *Popular* is compiling its own special software top ten chart – compiled by YOU

And each week we will send £25 to the person who sends in, with their chart votes, the most original (witty, neat or clever – but never rude) phrase or sentence made up from the letters (you don't have to use them all) in the titles of the top three programs in this week's Readers' Chart, published above.

You can still vote in the chart without making up a slogan – but you won't be in with a chance of winning the prize

All you have to do is fill in the form below (or copy it out if you don't want to damage your magazine) and send it off to Top 10, *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP

Voting for Week 66 closes at 2pm on Wednesday March 12, 1986. Entries received after that time will not be eligible for inclusion in that week's voting. The judges decision is final. Only one entry per individual per week will be allowed.

Name	**My top 3: Voting Week 66**
Address	1..
....	2..
....	3..

My phrase is: ....

New Releases

STUNNING

Lurking behind the rather naff cover of *Contraption* is an inventive platform and ladders game with some of the most stunningly detailed graphics ever seen on the Amstrad. Perhaps not all that surprising really since it is converted from an excellent BBC game which also featured fine graphics.

The game plays in hi-res mode and features a plot totally designed to encourage loony animation as it's chock full of wackyness as it is of alliterations (poisonous plants, bouncing bombs, pumping pistons, jiving jellyfish – that sort of thing.)

Does anyone really need to know about the plot? You have to collect some objects, step on thingys and dodge whatsits, you being a terminally mad professor (isn't everyone). Nevertheless, no matter what other bounce and jump games you own, *Contraption* is another necessary

addition. Not only are the graphics superb but the 11 screens are so fiendishly planned that the game provides a challenge equal to that of the original Miner game. Highly recommended.

Program *Contraption*
Price *£7.95*
Micro *Amstrad*
Supplier *Audiogenic, PO Box 88, Reading, Berks*

TRIPLE SCORE

Great news for QL owners with another one of those rare packages that actually uses some of the power of the machine and thus forms a mandatory purchase (even for those currently only using their QL for business).

Computer *Scrabble* has been around for a while and I still find the original Spectrum version one of my most frequently loaded titles. The QL version is certainly the finest so far with extra features and a larger dictionary.

Unlike other versions, the board on the QL edition is large enough (filling around two thirds of the screen) to incorporate information on double letter triple word score positions (by letters rather than square colours). The rack, displayed in the bottom of the screen, is large with a nicely designed, authentic looking, character set.

Every option you could possibly want is present, playing against the computer, skill level, speed levels, save game, even a timer for two

Pick of the week

THE PRINTED

Sticking my neck out I will predict that, in the long run, programs like *Fleet Street Editor*, will be of more practical use to more home users than a thousand home budget or spreadsheet programs. What *Fleet Street Editor* allows you to do, with a few restrictions on this version, is design a printed page. What a wordprocessor does for words, *Fleet Street Editor* does for words and pictures.

Who needs it? Small businessman who can knock out customised ads/rate cards, people holding functions like fairs and jumble sales, clubs with a use for newsheets and booklets (computer clubs and adventure clubs spring immediately to mind), school magazines, freelance writers wanting a customised logo or heading, etc, etc.

You require a BBC B, disc drive and a dot matrix printer. It is relatively simple to configure the program for your particular set-up from within the program. As with all commands, the main options required are selected via icons – a number of printers are already listed if yours is not.

A library of graphics is held on a separate disc, there are a large number of predefined shapes and logos covering everything from elaborate illuminated manuscript style letters to a digitised Margaret Thatcher. These shapes may be 'pulled in' from the library by marking them out with a cursor drawn box, they can be used in virtually any size and stored for use in the final make-up.

An alternative to using the graphics layout is to design your own shapes using a straightforward, but completely acceptable 'artists designer' package built into the package. This provides (again via icons) the usual draw, fill, expand/reduce, facilities, and again the graphic is saved for later use.

Actual layout of the page occurs via panels, this is the major restriction in the program. You must work in terms of a series of page subdivisions called panels – you have a choice of either eight (four down each

This Week

Program	*Type*	*Micro*	*Price*	*Supplier*
The Rocky Horror Show	Arc	Amstrad	£14.95	CRL
Swift Spreadsheet	Ut	BBC	£29.95	Audiogenic
Micro Maestro (Conc t pch)	Ed	BBC B	£14.95	Mupados
Micro Maestro (keyboards)	Ed	BBC B	£14.95	Mupados
Mr Men Magic Storymaker	ED	BBC B	£9.95	Mirrorsoft
Mini Office 2	Ut	BBC B	£14.44	Database
New Consultant	Ut	Commodore 128	£59.95	Ariolasoft
The Berks Trilogy	Arc	Commodore 16	£6.95	CRL
Borrowed Time	Ad	Commodore 64	£14.95	Activision
Dr Who + Mines of Terror	Ad	Commodore 64	£11.95	Micro Power
Ark Pandora	Arc	Commodore 64	£9.44	Rino
Hotline Quiz	Ed	Commodore 64	£9.95	Chalk Soft
Iwo Jima	S	Commodore 64	£7.44	PSS
Cut and Paste	Ut	Commodore 64	£34.95	Ariolasoft
Graphic Adventure Creator	Ut	Commodore 64	£22.95	Incentive
Homepak	Ut	Commodore 64	£34.95	Ariolasoft
Movie Maker	Ut	Commodore 64	£15.95	Ariolasoft
New Consultant	Ut	Commodore 64	£44.95	Ariolasoft
New Paperclip	Ut	Commodore 64	£64.44	Ariolasoft
Swift Spreadsheet	Ut	Commodore 64	£24.95	Audiogenic
Elektra Glide	Arc	Commodore 64	£8.95	English
Ace	Arc	Plus 4	£10.95	Cascade Games
Computer Scrabble	S	QL	£14.95	Leisure Genius
Advanced Swords + Sorcery	Ad	Spectrum	£14.95	PSS

New Releases

PAGE

half of an A4 sized sheet) or four (four running right across the page) or a combination. The construction of each panel is a matter of manoeuvring the graphic to the correct place and typing text in around it. The program automatically arranges the text.

Once each panel with text has been constructed, it is possible to look at the completed page in a slightly scematic form,

There are obviously a great many more procedures and subtitles including using wordprocessor files from other sources (like *View*) and a variety of body text styles. The manual includes an extensive general feature on the whole business of publishing – sections on litho printing and photocopying nothing, though, about moving to Wapping

This BBC package is the 'baby' of the Fleet Street range and suffers slightly from memory limitations, despite the extensive use of discs Nevertheless, it is a very useful and user friendly package

Program *Fleet St Editor*
Price *£39 95*
Micro *BBC B*
Supplier *Mirrorsoft*
Headington Hill Hall
Oxford
OX3 0BW

minutes to go, tournament rules, etc. I played the computer at a middling level and found the responses easily fast enough and intelligent enough to give me more than a run for my money (well, actually I lost) Things started badly with oozing on a double word and continued with the outrageous (but legal) toeline on a triple

An excellent program, and astonishingly enough it costs no more on microdrive for the QL than the Spectrum original cost on tape – £14 95 For a program of this quality, that is very cheap indeed It doesn't matter if you don't like games – pretend it's an educational tool for improving your vocabulary (perhaps it is) and hide it among the spreadsheets

Program *QL Scrabble*
Price *£14 95*
Micro *QL*
Supplier *Leisure Genius*
3 Montague Row
London
W1H 1AB

VISUAL PROBLEM

In the past year or so Bubble Bus has become one of the more highly regarded independent (ie, not part of US Gold) software houses with releases like *Wizards Lair* and *Starquake*

Latest from the company is an Amstrad game called *Deathsville* It is an arcade adventure game closely moulded on *Sorcery* with detailed multi-coloured graphics and complicated plot I think the game lacks some of the professional finish in *Sorcery* and is a little rough around the edges

Whilst *Deathsville* features woods and caves, boiling cauldrons and oak doors all drawn in multi-coloured detail, the graphic design makes it sometimes a little difficult to see what is what. Another visual problem is the central figure, he lacks any substance or solidity – this is definitely a mistake, since the other characters don't have this problem

Although the controls have been reduced to up, down, left right, pick up, drop, there are, nevertheless a large number of complex puzzles in the game

For addicts of this style of adventure, *Deathsville* has much to offer, otherwise you may remain unconvinced

Program *Deathsville*
Price *£7 95*
Micro *Amstrad*
Supplier *Bubble Bus*
87 High Street
Tonbridge
Kent

CORRUPTED

Microdeal have leapt into the Atari ST market with a number of disc utilities packaged in smart, shiny, silver plastic folders *Disk Help* is a sort of mini Disc Doctor in that it helps you recover, to some extent, corrupted programs

There are essentially two different kinds of damage that may occur to a disc – magnetic, where the disc is physically OK but data has been corrupted, or physical, where the disc itself is damaged

Whatever the problem the program will take a damaged disc and rewrite it byte by byte on to a fresh disc, filling in any missing data with X's At this stage you should be able to load and correct the new version of the file

The programs contain a couple of other utilities as well – format (without returning to desktop) and a special format that does not erase existing data since it saves it first, formats the disc and then rewrites it to the fresh disc One final useful feature – discs formatted under this system may be used even if there is an error somewhere on the disc

Quite a useful utility then, easy to use for the beginner and suitable for use with both single and double-sided discs and drives.

Program *Disk Help*
Price *£29 95*
Micro *Atari ST*
Supplier *Microdeal*
PO Box 68
St Austell
Cornwall

This Week

Activision, 15 Harley House, Marylebone Road London NW1 01-486 7588 **Ariolasoft,** 68 Long Acre Covent Garden, London WC2 01-836 3411 **Audiogenic,** 39 Sutton Industrial Park London Road Reading, Berks 1AZ, 0734 664646 **CRL,** CRL House 9 Kings Yard Carpenter s Road London E15 2HD, 01-533 2918 **Cascade Games,** 1-3 Haywra Cresent, Harrogate North Yorkshire HG1 5Dg, 0423 504526 **Chalk Soft,** PO Box 49 Spalding, Lincs PE 11 1 NZ 0775 69518 **Database,** Europa House 68 Chester Road, Hazel Grove, Stockport SK7 5NY, 061 456 8383 **English** 50 Newton Street5, piccadilly, Manchester **Incentive,** 54 London Street, Reading RG1 4SQ, 0734 591678 **Leisure Genius,** 3 Montagu Row London W1H 1AB, 01-935 4622 **Micro Power,** Northwood House Worth St, Leeds LS7 2AA 0532 434006 **Mirrorsoft,** Mirror Group, Holborn Circus, London EC1P 1DQ, 01 353 0246 **Mupados,** Unit 11 Llambed Ind Est Tregaron Rd Lampeter David SA48 8LT **PSS,** 452 Stoney Stanton Road Coventry CV6 5DG 0203 667556 **Rino,** 1 Orange Street, Sheffield 4DW 0742 755796 **System Three,** Davis House, 29 Hatton Gardens London EC1N 8DA **Tasman,** Springfield House, Hyde Terrace, leeds LS2 9LN 0532 438301

Ziggurat

Chat lines

Do you remember the ad for business computers that emphasised their networking capabilities, and ended with the slogan, 'We should be talking to each other'? It struck me at the time that the slogan is at odds with the image of the computer hobbyist as a solitary being staying up to the early hours either playing or programming games. Has the computer led to increasingly isolated individuals, I mused?

Then, more recently, I was given a tour of Micronet 800, the home computer user's database on Prestel, and as I shown the various facets of the network it became clear that far from being a lonely and introverted activity, computing has great and radical potential for bringing people together. So if what I say about electronic publishing refers specifically to Micronet, I hope the other networks will forgive me – the implications apply to them all, from the largest to the smallest bulletin board.

Put aside the downloading of games, the multi-player adventures and the competitions, and look instead at the chat lines. Here, for only 40 pence per hour, off peak, anybody with a computer can 'talk' to other computer users anywhere in the country in CB emulation style – that's to say that there's time to read a message then it clears for the next one. Nothing so radical in that, except that you've no idea who you're talking to – there is nothing physical to create preconceptions about a person.

Than there are the specialist areas of these open forums. Want to discuss politics? There's an area for you. What if you're gay? Micronet's most used section is their gay chatline, and though computers and affairs of the heart may seem strange partners, it makes a lot of sense, providing an opportunity to talk for those who dare not or will not come out.

Perhaps the most exciting possibility though is for the disabled. Somebody who is house-bound, for whatever reason, can suddenly find themselves part of a widespread social net, providing they can use a keyboard, and they can be sure that there won't be any adverse reactions to their disability because nobody need know. On a bulletin board, everyone is equal.

By now I was extremely excited by the possibilities of the networks. Then a doubt set in. Could people expect this idyllic state of free speech to last forever? Certainly Micronet won't censor communications. The only way to get thrown off the network is to raise the wrath of so many people that they start to complain. But free and open exchange can be a frightening thing for governments and the networks allow not only for chat-lines but also publishing. Using the Gallery pages, subscribers can write and illustrate their own electronic magazines, to be read by any other subscribers. And those magazines can contain whatever views they want.

Now I wouldn't want to suggest that our present government is censorship happy (after all, we don't even have film censors any more – while tightening up and extending their powers they made the C stand for Classification) but one day an MP looking for a cause to woo the voters will seize upon so much subversive free speech and pounce.

Bulletin boards and networks still have something of an air of mystery, an arcane area for the boffins of computing, which is sad. With the very reasonably priced modems available and highly reasonable subscription charges there's no reason why many more people shouldn't be taking advantage of the opportunity to log on and spread ideas. Yes – we should be talking to each other!

John Minson

Puzzle

Puzzle No 196

'Flickafree Rentavision' the television rentals firm has just come to the end of a three week sales campaign, which has resulted in a record number of new installations. Over this three week period a total of 96 TV sets have been installed, and each week was an improvement on the previous week.

When the figures for each week came to be analysed it was noted that the difference in sales between the first and second weeks, multiplied by the difference in sales between the second and third weeks, came to the actual number of sales during the first week.

How many sales were made during the third week?

Solution to Puzzle No 193

The dates of birth were: Simon's father 3.8.1924, Simon's mother 9.8.1929, Simon 31.7.1961, Simon's cousin 2.9.1961, Simon's sister 4.7.1960

```
100 DIM X(22)
110 RESTORE
120 FOR N=1 TO 22
130 READ X(N)
140 NEXT
150 LET C=19
160 FOR N=1 TO 22
170 YEAR=C*100+X(N)
180 FOR M=1 TO 12
190 FOR D=1 TO 31
200 LET D$=STR$ D
210 LET M$=STR$ M
220 LET Y$=STR$ YEAR
230 LET Z$=D$+M$+Y$
240 LET Z=VAL Z$
250 [illegible]
260 [illegible]
270 NEXT D
280 NEXT M
290 NEXT N
300 END
310 DATA 00,01,04,09,16,21,24,25
320 DATA 29,36,41,44,49,56,61,64
330 DATA 69,76,81,84,89,96
```

It is fairly well known that square numbers can only end with the digits 0, 1, 4, 5, 6 or 9. Not so well known is the fact that if the final two digits are taken these can only be one of 22 possible two-digit terminii. These are the values used in the DATA statements, and which are used in Line 90 to generate the year values in the range 1900 to 1996.

The program generates all dates having 31 days and 12 months for each of these years, and tests the resulting figure to determine if it is a perfect square. Any found are printed out.

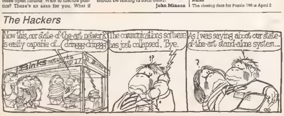
Winner of Puzzle No 193

The winner is I A Scott of Darlington, County Durham, who will be receiving £10

Rules

The closing date for Puzzle 196 is April 2

The Hackers



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